USSR

BOGUSH, A. A., FEDOROV, F. I., Institute of Physics, Academy of Sciences of the BSSR

"Vector Parametrization of the Complex Lorentz Group"

Moscow, Teoreticheskaya i Matematicheskaya Fizika, Vol 13, No 1, Oct 72, pp 67-74

Abstract: It is shown that the complex Lorentz group can be parametrized by using two independent, complex, three-dimensional vectors. In this regard there is a far-reaching analogy with the real Lorentz group. General expressions are derived for finite transformations of irreducible finite-dimensional representations of the complex Lorentz group.

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1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--REACTION OF ALKYLPHENYL SUBSTITUTED GLYCIDOLS WITH AROMATIC AND ALIPHATIC AROMATIC AMINES -U-

AUTHOR-(02)-BOGUSH, G.K., PANSEVICHKOLYADA, V.I.

COUNTRY OF INFO--USSR

SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR, SER. KHIM. NAVUK 1970, (2), 118-19

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AROMATIC AMINE, BENZENE DERIVATIVE, PROPANOL, EPOXY COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1873

STEP NO--UR/0419/70/000/002/0118/0119

CIRC ACCESSION NO--AP0123661

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123661

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICROFICHE OF ABSTRACT CONTAINS GRAPHIC INFORMATION. I WERE TREATED WITH PHCH SUB2 NH SUB2, O,MEC SUB6 H SUB4 NH SUB2, OR RHO,MEC SUB6 H SUB4 NH SUB2 AT ROOM TEMP. TO GIVE PHCH(NHR PRIME1) CH(OH),CH(OH)R (R, R PRIME1, M.P. OR B.P., N PRIME20 SUBD, AND D PRIME20 GIVEN): PR, RHO,ME,C SUB6 H SUB4, 120-2DEGREES, MINUS, MINUS; PR, PHCH SUB2 (PICRATE M. 198.5DEGREES), B SUB2 TIMES 5 200-2DEGREES, 1.5670, 1.0955; BU, PHCH SUB2, B SUB1 TIMES 5 202-9DEGREES, 1.5580, 1.0734; ISOAMYL, O-MEC SUB6 H SUB4, 100-1.5DEGREES, MINUS, MINUS; AMYL, O,MEC SUB6 H SUB4, 110-11DEGREES, MINUS, MINUS; HEXYL, O,MEC SUB6 H SUB4, 96DEGREES, MINUS, MINUS.

FACILITY: BELORUSS. POLITEKH. INST., MINSK, USSR.

UNCLASSIFIED

USSR

UDC: 621.311.1

BOGUSH, I. A., Engineer, and I. P. SIUDA, Professor, Doctor of Technical Sciences

"Possibility of Remote Transmission of Reactive Power Over Lines Without Intermediate Connections"

Minsk, Izvestiya VUZ - Energetika, No. 5, 1971, pp 14-16

Abstract: The authors, associated with the Order of the Labor Red Banner Polytechnical Institute imeni S. Ordzhonikidze of Novocherkassk, consider some of the reactive power levels to be obtained from long-distance lines without intermediate connections. They assert that the technical possibilities and economic advantages of using reactive power have not yet been adequately studied. Finding an expression for the maximum output power at the receiving end of the line, they present curves for determining the parameters of the maximum power transmission at the line's point of origin. As an idea of how these parameters vary, they plot their curves as functions of the line length from data computed for a line of 500 kV with 3 x ACO-500 conductors. To illustrate their handling of the variation in transmitted power and voltage at the receiving end of the line, they use a line 500 km long, made of these conductors and carrying 500 kv. Curves of the voltage as a function of the power in this example are given.

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USSR

UDC 669.046.5

KOCHO, V. S., BOGUSHEVSKIY, V. S., and SOBOLEV, S. K.

"Improving the System for Determining the Time of Shutting Down Blowing in an Oxygen Converter"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS) (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 178-180

Abstract: Results are presented of an investigation of the dynamics of carbon burning in a 100-ton converter of the Krivoy Rog metallurgical plant. A close relationship is established between the rate of converter bath decarburization and the pressure of exhaust gases under the dome. An algorithm is presented for determining the carbon content in the converter bath, based on the balance-statistical method, taking into account the variation pattern of parameters closely related to the decarburization rate of the converter bath. An analog computing system was developed for the continuous determination of carbon content in the converter bath. Problems related to self-alignment of the converter process are considered.

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1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PHACOEMULSIFICATION (EXPERIMENTAL INVESTIGATION) -U-

AUTHOR-(02)-SHMELEVA, V.V., BOGUSLAVSKAYA, E.S.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 1, PP 25-30

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EYE, ULTRASONIC BIOLOGIC EFFECT, HISTOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1980/0623 STEP NO--UR/0357/70/000/001/0025/0030

CIRC ACCESSION NO--AP0049039

UNCLASSIFIED

2/3 024 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0049039

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL INVESTIGATIONS (ON ISOLATED CRYSTALLINE LENSES, EYES OF HUMAN CADAVERS AND RABBITS) INTO ULTRASOUND BREAKING OF THE LENTICULAR NUCLEUS WERE CONDUCTED. THE RABBITS' EYES REMOVED ON THE 3D AND 15TH POSTOPERATIVE DAYS WERE EXAMINED HISTOLOGICALLY. THESE INVESTIGATIONS DEMONSTRATED CRUSHING OF THE LENTICULAR NUCLEUS BY ULTRASOUND TO BE ESSENTIALLY FEASIBLE AND ALSO THE ABSENCE OF ANY DAMAGING EFFECT OF THE ULTRASOUND IN PROCEDURES AND WITH DOSAGES EMPLOYED IN THE COURSE OF THE PRESENT WORK.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

Acc. Nr: AP0049790

Abstracting Service: CHEMICAL ABST. 5-70

Ref. Code: UR 0188

B

101588q **Compatibility of an ethylene-propylene-diene polymer with general-purpose rubbers.** Boguslavskaya, K. V.; Kolobenin, V. N.; Boguslavskii, D. B.; Evstratov, V. F. (Dnepropetrovsk. Filial Nauch.-Issled. Inst. Shin. Prom., Dnepropetrovsk, USSR). *Kauch. Rezina* 1970, 29(1), 3-6 (Russ). The tensile strength of BSK, BSK + SKD, SKI-3 + SKD vulcanizates contg. ethylene-propylene-unconjugated diene copolymers (I) depended on the nature of the vulcanizing system. Vulcanizing agents contg. no S (e.g., alkylphenol-HCHO resins) brought about crosslinking with the double bonds left intact. The vulcanizates obtained were more compatible with I and exhibited good physicomech. properties. Addn. of 10-30 parts I to the foregoing vulcanizates improved their O_3 resistance and weatherability. CKJR

96.

REEL/FRAME
19801712

USSR

KHODZHAYEV, Sh. Kh., and ROGUSLAVSKAYA, M. N., Chair of Children's Infections, Tashkent Institute for the Advanced Training of Physicians

"A Comparative Evaluation of the Effectiveness of Treating Brucellosis Patients with Antibiotics and with Specific Antibrucellosis Gamma-Globulin in Combination with Antibiotics"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, 1970, pp 7-10

Abstract: Treatment of brucellosis must be improved, because administration of antibiotics gave rise to resistant Brucella strains and frequently caused toxic and allergic reactions in patients. Two groups of brucellosis patients were studied, aged 20 to 40, and exhibiting the severe, medium, and light forms of the disease. Sixty patients were treated with antibiotics only (biomycin, tetracycline, levomycetin, and streptomycin), administered according to a definite schedule. Thirty control patients, were treated with the same antibiotics, but in combination with specific antibrucellosis gamma-globulin. Although positive results were obtained with either method, the second method involving antibiotics and gamma-globulin was un-

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USSR

KHODZHAYEV, et al., Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, 1970, pp 7-10

questionably superior. While in the first group no therapeutic effects were observed on 12 patients and 19 patients suffered relapses, in the second group positive results were observed in all patients and the number of relapses (less severe than in the first group) was three times smaller. The findings indicate that specific gamma-globulin should always be used for brucellosis treatment. If given in the early stage of the infectious process, they stimulate the body's immunological mechanisms and, in combination with antibiotics rapidly reduce the concentration of the pathogens in the body. Furthermore, since specific gamma-globulin causes little reaction, it should also be administered when brucellosis vaccine is contra-indicated.

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Acc. Nr: AP0049790

Abstracting Service: CHEMICAL ABST. 5-70

Ref. Code: UR 0188

B

101588q **Compatibility of an ethylene-propylene-diene polymer with general-purpose rubbers.** Boguslavskaya, K. V.; Kolobenin, V. N.; Boguslavskii, D. B.; Eystratov, V. F. (Dneprope-trovsk. Filial Nauch.-Issled. Inst. Shin, Pmm, Dnepropetrovsk, USSR). *Kauch. Rezina* 1970, 29(1), 3-6 (Russ). The tensile strength of BSK, BSK + SKD, SKI-3 + SKD vulcanizates contg. ethylene-propylene-unconjugated diene copolymers (I) depended on the nature of the vulcanizing system. Vulcanizing agents contg. no S (e.g., alkylphenol-HCHO resins) brought about crosslinking with the double bonds left intact. The vulcanizates obtained were more compatible with I and exhibited good physicomech. properties. Addn. of 10-30 parts I to the foregoing vulcanizates improved their O_3 resistance and weatherability. CKJR

REEL/FRAME
19801712

USSR UDC 577.37

LEBEDEV, A. V. and BOGUSLAVSKIY, L. I., Institute of Electrochemistry, Academy of Sciences USSR

"Experimental Study of the Mechanism of Conductivity of Artificial Phospholipid Membranes by Measuring Impedance"

Moscow, Biofizika, No 1, 1971, pp 221-229

Abstract: The capacitance and conductivity of artificial phospholipid membranes in the presence of uncouplers of oxidative phosphorylation (2,4-dinitrophenol, pentachlorophenol, and tetrachlorotrifluoromethylbenzimidazole [TFB]) and the antibiotic valinomycin were dependent on the concentration of the penetrating ion (proton for the uncouplers and potassium for the antibiotic). The frequencies were measured in the range of 10^{-3} hz and 30 khz. It appears that impedance of the ion takes place in the membrane rather than during the migration of the ion from the electrolyte to the membrane. The resistance of the volume of the membrane can be compared to that of the border only in the presence of TFB, the most effective additive. A bell-shaped dependence of conductance on alternating current is maintained at high frequencies when capacitance is determined by its geometric value. At a low frequency, capacitance either has a peak (in the case of TFB) or it is independent

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

USSR

LEBEDEV, A. V. and BOGUSLAVSKIY, L. I., Biofizika, No 1, 1971, pp 221-229

of the concentration of the transferred ion up to 10^{-3} hz (in the case of the other compounds). The results are consistent with relay-race theory.

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Acc. Nr. AP0100303 Abstracting Service: CHEMICAL ABST. Ref. Code UR0181

115522a Surface state of anthracene single crystals studied with low-energy electron pulses. Vannikov, A. V.; Lozhkin, B. T.; Boguslavskii, L. I. (Inst. Elektrokhim., Moscow, USSR). *Fiz. Tverd. Tela* 1970, 12(2), 557–61 (Russ). Hole and electron motion in single-crystal anthracene was studied with low energy electron impulses (3–15 keV). Electron life times and trap concns. were estd. as a function of the distance to the crystal surface. At the surface, a sharp decrease in the lifetimes and an increase in trap concn. relative to the bulk values, were obsd. The energy necessary for free carrier pair formation is ~400 eV in the bulk of the specimen and ~160 eV in the near-surface layer. Increase in the free carrier generation efficiency at the surface is related to the presence of a strong elec. field detd. by a space charge of trapped electrons which increases the probability of dissocn. of bound electron-hole pairs into free carriers.

REEL/FRAME 19841706

Acc. Nr: AP0047363 Ref. Code: UR0589

PRIMARY SOURCE: Vestnik Khirurgii imeni I. I. Grekova, 1970, Vol 104, Nr / , pp 82-86

LATE RESULTS OF SURGICAL TREATMENT OF THE RECTAL CANCER

Ryzhikh, A.N.; Fayn, S.N.; Inoyatov, I.M.; Boguslavskiy, L.S.

In the clinic within a 12 year period 727 patients were treated. Late results of treatment were followed up in 89.1 per cent of patients. It is concluded that best results could be obtained in abdominoperineal extirpation of the rectum (55% of patients survived for over 5 years) and abdominoanal resection of the rectum with descending of the sigmoid and preservation of the sphincter (62.7% of patients with a 5 year survival).

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REEL/FRAME

19790889

USSR

UDC 531.74.(017)(083.76)

BOGUSLAVSKIY, M. G., ELIASHBERG, B. M., SHAROVA, Ye. Ye., and FEDOTOVA, L. I.

"State Primary Standard Unit of a Plane Angle -- the Radian"

Moscow, Izmeritel'naya Tekhnika, No 7, 1972, pp 9-10

Abstract: A complex of equipment for reproducing and storing the unit of a plane angle equal to 2 π rad, or a part thereof, and for transmitting the size of the unit, by means of secondary standards and standard measurement facilities, to operating measurement facilities, was developed and tested in 1970. The State primary standard unit of a plane angle comprises a complex of the following measuring equipment: a 36-faced prism, produced at the All-Union Scientific Research Institute of Metrology in 1958; a standard goniometric autocollimation unit consisting of photoelectric autocollimators with an electronic digital readout device, and a device for holding and turning the polyhedral prism. 36-faced prism No 1 has been certified on the State primary standard. The mean-square error of the measurement result did not exceed 0.02". The new primary standard facility has been ratified in January, 1972 at a meeting of the Gosstandart, USSR as the State primary standard unit of a plane angle. 4 figures.

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USSR UDC: 621.374.33(088.8)

BOGUSLAVSKIY, R. Ye., REZNIK, B. D., SEVERINOVSKIY, N. S.

"A Bistable Commutator"

USSR Author's Certificate No 272370, filed 25 Mar 68, published 5 Nov 70 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5G282 P)

Translation: This Author's Certificate introduces a bistable commutator which contains input and output isolation transformers, a transistor with positive feedback circuit which utilizes transformation of voltages from the collector circuit to the base circuit, and a capacitor. To simplify the circuit, increase the switching capacity of the transistor and reduce power consumption, the transistor is connected between the centertaps of the windings of the input and output isolating transformers, the end-points of these windings being connected through semiconductor diodes. The feedback circuit is made in the form of an auxiliary winding on the output isolating transformer. This winding is connected through a semiconductor diode to the base circuit of the transistor.

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USSR

UDC 621.316.546:621.313.29:538.4

BOGUSLAVSKIY, V. A., TOLMACH, I. M., and YANTOVSKIY, YE. I.

"Study of the Commutation of a Strong Direct Current Using a Molten Metal in a Rotating Magnetic Field"

Riga, Magnitnaya Gidrodinamika, No 4, Oct-Dec 72, pp 95-101

Abstract: A unit for studying the commutation of strong currents with the aid of molten metal is described which consists of a non-conducting, hermetically sealed cyclinder partially filled with molten metal, electrodes inserted inside the cylinder and an external nonferrous inductor of the rotating field. When the inductor is switched on the molten metal is uncoiled and forms a rotating and conducting sylinder and closes the main circuit. Switching the inductor off leads to the fall of molten metal from the force of gravity and to a break in the circuit. Questions of comparing the linear device with centrifugal devices, determination of the maximum current of short circuiting and calculation of the nonferrous stator field are discussed. Experiments are described on a model of a switch with commutations of direct current up to 1000 a and a voltage of 220 v with forcing of the control voltage

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USSR

BOGUSLAVSKIY, V. A., et al., Magnitnaya Gidrodinamika, No 4, Oct-Dec 72, pp 95-101

during switch on and counter rotation of the field upon switch off. S. Ye. Dvorchik and V. N. Firsov assisted in conducting the experiments. 6 figures, 6 bibliographic references.

2/2

Materials

USSR

UDC 621.039

KOT, A. A., Doctor of Technical Sciences, GRUZDEV, N. I., SHCHAPOV, G. A., TIPIKIN, S. A., and BOGUSLAVSKIY, V. B., Engineers

"Study of the Radiolytic Processes in the Loop Water of a Reactor"

Teploenergetika, No 1, January 1972, pp 31-34

Abstract: Investigations were conducted at the second unit of the BAES (Beloyarsk Atomic Electric Power Plant) with respect to a study of the radiolysis of water, the extent of the radiolytic decomposition of ammonia which is dosed into the feed water of the reactor, and the formation of nitrates and nitrites in the area of the reactor. Methods were studied for suppression of the radiolysis of the water and removal of the radiolytic oxygen. The experiments were conducted during a change of the reactor power from 150 to 360 megawatts (thermal) which corresponds to the electrical power of the unit of 40-130 megawatts. The vapor content in the evaporative channels of the reactor remained constant independently of the reactor power and was equal to 15.4--16.6 percent. 4 fig. 1 tab. 2 ref.

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USSR

UDC 534.222

BOGUSLAVSKIY, YU. YA., IOFFE, A. I., NAUGOL'NYKH, K. A., Acoustics Institute of the USSR Academy of Sciences

"Radiation of Sound by a Cavitating Region"

Moscow, Akusticheskiy Zhurnal, Vol 16, No 1, 1970, pp 20-24

Abstract: Based on an approach suggested by Lighthill for estimating noises of hydrodynamic origin, an equation describing radiation of sound by cavitating streams of liquid has been derived. The intensity of the cavitation component of noise was calculated for the case when the noise can be considered as the aggregate of pulses with random amplitudes and times of approach to the observation point, and also for the case of weak pulsations of cavitating bubbles.

The Lighthill equation:

$$\frac{\partial^2 \rho}{\partial t^2} - c^2 \Delta \rho = \frac{\partial^2 T_{ij}}{\partial x_i \partial x_j}$$

$$T_{ij} = \rho v_i v_j + P_{ij} - c^2 \delta_{ij} \rho' \qquad (1)$$

BOGUSLAVSKIY, YU. YA., et al., Akusticheskiy Zhurnal, Vol 16, No 1, 1970, pp 20-24

(ρ = density of medium and v = hydrodynamic velocity), reduces the problem of radiation of sound by a stream to the acoustic problem of a field produced in a homogeneous medium by spatially distributed sources of pressure.

This equation is also used for the cavitating region -- a liquid with gas bubbles, where ρ stands for the effective density of this medium.

$$\rho = \rho_K/(1+z) \qquad (2)$$

where ρ_K = density of liquid, $z = (4/3)\, n(R^3 - R_o^3)$, n = number of bubbles per unit volume, R = radius of bubble, R_o = its initial value; thus, z = volume of all bubbles per unit volume of liquid.

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RADIATION OF SOUND BY A CAVITATING REGION -U-

AUTHOR-(03)-BOGUSLAVSKIY, YU.YA., IOFFE, A.I., NAUGOLNYKH, K.A.

COUNTRY OF INFO--USSR

B

SOURCE--MOSCOW, AKUSTICHESKIY ZHURNAL, VOL 16, NO 1, 1970, PP 20-24

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MATHEMATIC MODEL, CAVITATION NOISE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1876 STEP NO--UR/0046/70/016/001/0020/0024

CIRC ACCESSION NO--AP0106543

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0106543

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON AN APPROACH SUGGESTED BY LIGHT HILL FOR ESTIMATING NOISES OF HYDRODYNAMIC ORIGIN, AN EQUATION DESCRIBING RADIATION OF SOUND BY CAVITATING STREAMS OF LIQUED HAS BEEN DERUVED. THE INTENSITY OF THE CAVITATION COMPONENT OF NOISE WAS CALCULATED FOR THE CASE WHEN THE NOISE CAN BE CONSIDERED AS THE AGGREGATE OF PULSES WITH RANDOM AMPLITUDES AND TIMES OF APPROACH TO THE OBSERVATION POINT, AND ALSO FOR THE CASE OF WEAK PULSATIONS OF CAVITATING BUBBLES. THE LIGHTHILL EQUATION: EQUATION SHOWN ON MICROFICHE, (P EQUALS DENSITY OF MEDIUM AND V EQUALS HYDRODYNAMIC VELOCITY), REDUCES THE PROBLEM OF RADIATION OF SOUND BY A STREAM TO THE ACOUSTIC PROBLEM OF A FIELD PRODUCED IN A HOMOGENEOUS MEDIUM BY SPATIALLY DISTRIBUTED SOURCES OF PRESSURE. THIS EQUATION IS ALSO USED FOR THE CAVITATING REGION, A LIQUID WITH GAS BUBBLES, WHERE P STANDS FOR THE EFFECTIVE DENSITY OF THIS MEDIUM. P EQUALS P SUBK-(1 PLUS Z) (2) WHERE P SUBK EQUALS DENSITY OF LIQUID, Z EQUALS (4-3) N(R PRIME3-R PRIME3 SUB0), N EQUALS NUMBER OF BUBBLES PER UNIT VOLUME, R EQUALS RADIUS OF BUBBLE, R SUB0 EQUALS ITS INITIAL VALUE; THUS, Z EQUALS VOLUME OF ALL BUBBLES PER UNIT VOLUME OF LIQUED. FACILITY: ACOUSTICS INSTITUTE OF THE USSR ACADEMY OF SCIENCES.

UNCLASSIFIED

USSR UDC 615.831.4.015.45:612.419:612.398.145.1.015.36

BOGUTSKIY B. V. and KOVAL'CHUK, S. I., Institute of Physical Methods of Treatment and Medical Climatology imeni I. M. Sechenov, Yalta

"The Effects of Ultraviolet Rays on DNA Biosynthesis in Myeloid Cells"

Moscow, Voprosy Kurortologii Fizioterapii i Lechebnoy Fizicheskoy Kul'tury, Vol 36, No 1, 1971, pp 52-54

Abstract: Since it is known that sunburn may be accompanied by temporary hemolysis, an investigation was performed to check the effects of ultraviolet rays on the hematopoietic tissue in bone marrow. The tests were done on 75 mice which were topically irradiated with a quartz lamp over a 6 cm^2 large depilated skin area on the back, for 1, 2, 10, 30, and 60 min. Bone marrow samples were taken 2, 6, 12, and 24 hours after irradiation and analyzed for DNA according to the method described. The first histological signs of erythema appeared after a 5 min exposure. Staining intensity, indicative of the intensity of DNA synthesis

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USSR

BOGUTSKIY, B. V. and KOVAL'CHUK, S. I., Voprosy Kurortologii Fizioterapii i Lechebnoy Fizicheskoy Kul'tury, Vol 36, No 1, 1971, pp 52-54

significantly increased 6 hours after exposure and returned to normal within 24 hours. The same was true of longer exposures, except an exposure of 60 minutes, after which the intensity of staining increased on the 2nd hour, decreased on the 6th hour, and subsequently increased again. Since the rays had a low penetrating power and therefore could not act directly on the bone marrow, it was concluded that the reaction was mediated by a neurohumoral mechanism. Tissue injury caused by ultraviolet rays and the breakdown products circulating in blood stimulate DNA synthesis. However, when the concentration of the breakdown products exceeds a certain level, bone marrow activity is suppressed.

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1/2 028 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF ULTRAVIOLET RAYS ON DNA BIOSYNTHESIS IN THE EPIDERMIS -U-

AUTHOR-(02)-BOGUTSKIY, B.V., KOVALCHUK, S.I.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 25-7

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--UV RADIATION BIOLOGIC EFFECT, MOUSE, DNA, BIOSYNTHESIS, SKIN PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0451 STEP NO--UR/0205/70/010/001/0025/0027

CIRC ACCESSION NO--AP0121125

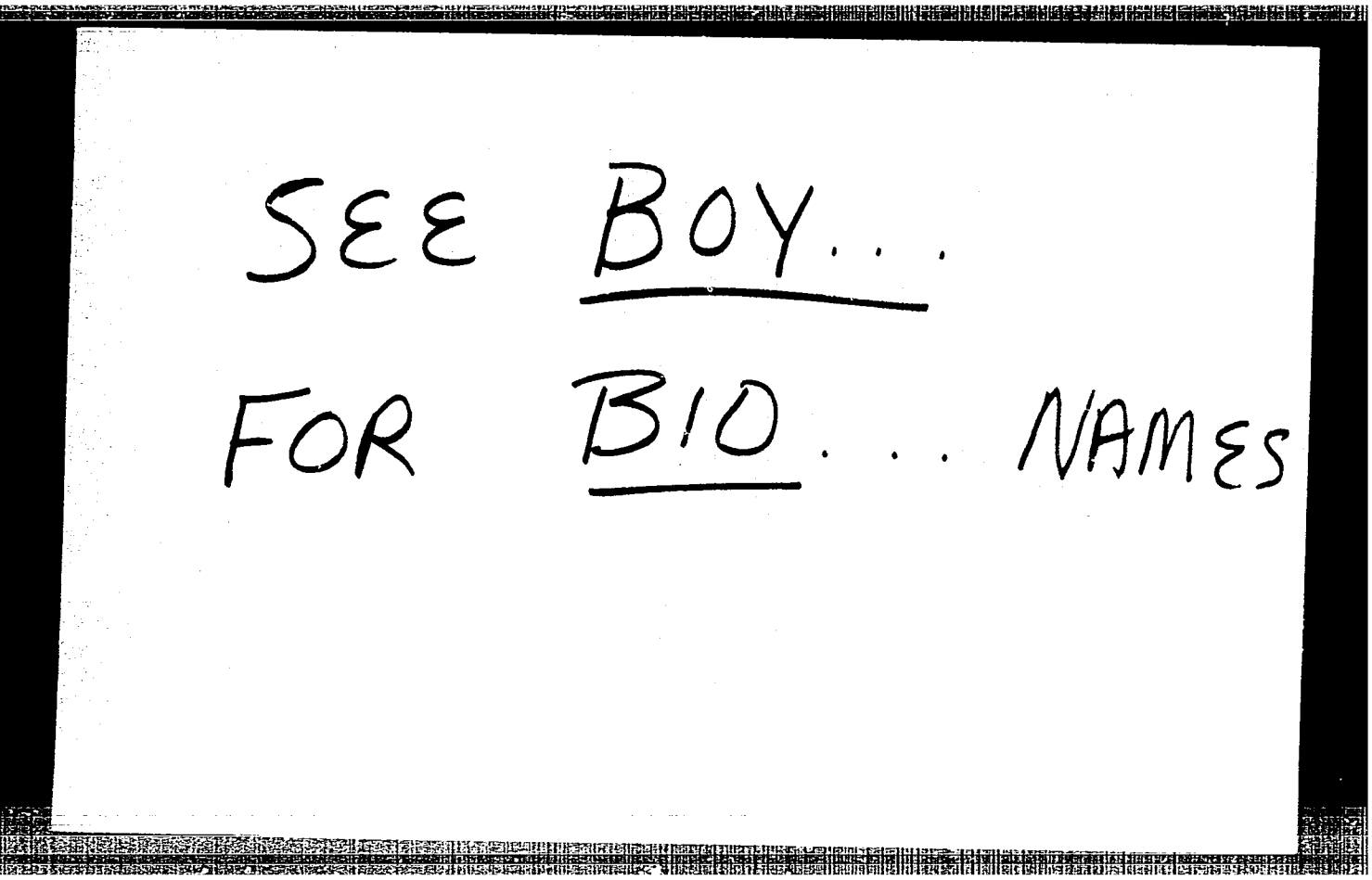
UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121125

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SKIN (6 CM PRIME2) OF MICE C57B1XCBA WAS DEPILATED AND UV IRRADIATED (HG QUARTZ LAMP PRK-2, DISTANCE 50 CM) FOR 1, 2, 5, 10, 30, 60, 120, AND 300 MIN AND THE ANIMALS WERE DECAPITED 2, 5, 12, 24, 72, AND 168 HR AFTER THE IRRADN. THYMIDINE PRIME3 H (1 MUCI-G BODY WT.) WAS INJECTED 2 HR BEFORE DECAPITATION. DNA BIOSYNTHESIS IN THE IRRADIATED EPIDERMIS WAS EVALUATED BY HISTORADIOAUTOGRAPHY (NUCLEAR EMULSION "M", EXPOSURE 2 WEEKS AT 4DEGREES). THE 1ST HISTOL. FEATURES OF THE ERYTHEMA REACTION WERE OBSD. AFTER UV IRRADN. FOR 5 MIN. THE IRRADN. BY SUBERYTHEMA DOSES (IRRADN. SHORTER THAN 5 MIN) RESULTED IN A DECREASED DNA SYNTHESIS FOR THE FIRST 12 HR AND THEN AN INCREASED DNA BIOSYNTHESIS APPEARED WITH SUBSEQUENT NORMALIZATION. IRRADN. BY SUPERERYTHEMA DOSES (10 MIN AND LONGER) RESULTED IN THE COMPLETE BLOCKING OF DNA SYNTHESIS FOR VARIOUS TIME INTERVALS WITH SUBSEQUENT ACTIVATION OF DNA SYNTHESIS. THE IRRADN. FOR 60 AND 120 MIN RESULTED IN THE BLOCKING OF DNA SYNTHESIS FOR 3-7 DAYS. FACILITY: NAUCH.-ISSLED. INST. FIZ. METOD. LECH. MED. KLIMATOL. IM. SECHENOVA, YALTA, USSR.

UNCLASSIFIED



1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF METASTABILITY ON THE PROPERTIES OF PLASTICALLY DEFORMED ALUMINUM -U-
AUTHOR-(03)-DZHANBUSINOV, YE.A., BOK, B.I., PRESNIAKOV, A.A.

B

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK KAZAKHSKOI SSR, IZVESTIIA, SERIIA FIZIKO-MATEMATICHESKAIA, VOL. 8, MAR.-APR. 1970, P. 77-80.
DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PLASTIC DEFORMATION, SUPER PLASTICITY, PLASTIC FLOW, HIGH PURITY METAL, ALUMINUM ALLOY, MECHANICAL PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0347 STEP NO--UR/0361/70/008/000/0077/0080

CIRC ACCESSION NO--AP0124104
UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124104

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DEMONSTRATION OF THE PHENOMENON OF SUPERPLASTICITY IN PURE ALUMINUM SUBJECTED TO PRIOR PLASTIC DEFORMATION. IT IS SHOWN THAT THE BRINGING OF ALUMINUM INTO A METASTABLE STATE BY MEANS OF PLASTIC DEFORMATION LEADS TO THE OCCURRENCE OF CERTAIN PHYSICOCHEMICAL PROCESSES WHICH MANIFEST THEMSELVES IN A SUPERPLASTIC FLOW OF THE METAL.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--PLASTICITY OF ALUMINUM OF INDUSTRIAL PURITY WITH A SMALL INITIAL DEFORMATION -U-

AUTHOR--BOK, B.I.

B

COUNTRY OF INFO--USSR

SOURCE--ALMA-ATA, VESTNIK AKADEMII NAUK KAZAKHSKOY SSR, MARCH 1970, P 71

DATE PUBLISHED----MAR70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PLASTICITY, METAL DEFORMATION, ALUMINUM ALLOY, THERMAL EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1326 STEP NO--UR/0031/70/000/000/0071/0071

CIRC ACCESSION NO--AP0121819

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121819

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTAL DATA ARE GIVEN FOR THE VARIATION WITH TEMPERATURE OF THE PLASTICITY OF ALUMINUM IN THE INTERVAL FROM 20 TO 600DEGREESC. THE MATERIAL USED FOR THE STUDY WAS 99.7PERCENT PURE. THE RATES OF EXPANSION WERE TAKEN TO BE 2, 20 100, AND 1000 MM,MIN. ON THE BASIS OF AN ANALYSIS OF THE EXPERIMENTAL DATA, THE AUTHOR CONCLUDES THAT A TRANSFORMATION TAKES PLACE IN THE ALUMINUM IN THE THERMAL REGION OF 500 TO 600DEGREESC.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MICROHARDNESS OF DEFORMED ALUMINUM OF INDUSTRIAL PURITY -U-

AUTHOR-(02)-BOK, B.I., PRESNYAKOV, A.A.

B

COUNTRY OF INFO--USSR

SOURCE--ALMA-ATA, VESTNIK AKADEMII NAUK KAZAKHSKOY SSR, MARCH 1970, P 71

DATE PUBLISHED----MAR70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ALUMINUM ALLOY, METAL DEFORMATION, COLD HARDENING, ALLOY PHASE TRANSFORMATION, MICROHARDNESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/1327 STEP NO--UR/0031/70/000/000/0071/0071

CIRC ACCESSION NO--AP0121820

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121820

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE PRESENTS EXPERIMENTAL DATA ON THE MICROHARDNESS OF ALUMINUM AS A FUNCTION OF THE HARDENING TEMPERATURE AND DEGREE OF ROLLING. ALUMINUM WITH A PURITY OF 99.7PERCENT AND DEGREES OF COLD HARDENING OF 0, 13, 30, 50, 60, 70, AND 80PERCENT WAS USED FOR THE STUDY. HARDENING OF THE SAMPLES STUDIED WAS CARRIED OUT WITH TEMPERATURES OF 600DEGREESC AND BELOW AND IMMERSION IN WATER AT ROOM TEMPERATURE. BASED ON AN ANALYSIS OF THE EXPERIMENTAL DATA, A CONCLUSION IS MADE BY THE AUTHORS THAT A TRANSFORMATION IN THE ALUMINUM OCCURS AT ABOUT 400DEGREESC WHICH SETS THE HARDENING.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EFFECT OF PRELIMINARY DEFORMATION ON THE PLASTICITY OF ALUMINUM -U-

AUTHOR-(03)-BOK, B.I., DZHANBUSINOV, YE.A., PRESNYAKOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--VESTN. AKAD. NAUK KAZ. SSR 1970, 26(2), 53-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PLASTICITY, ALUMINUM ALLOY, PLASTIC DEFORMATION, METAL DEFORMATION, WORK HARDENING, MECHANICAL PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1744 STEP NO--UR/0031/70/026/002/0053/0057

CIRC ACCESSION NO--AP0108111
UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108111

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TEMP. DEPENDENCE WAS STUDIED OF THE PLASTICITY OF AL (99.7PERCENT), WHICH WAS DEFORMED PREVIOUSLY BY VARIOUS DEGREES OF WORK HARDENING BY COLD ROLLING. THE AL SPECIMENS WERE COLD ROLLED WITH DEFORMATIONS 0-80PERCENT (FINAL TEMP. AT THE END OF ROLLING LESS THAN 100DEGREES). SPECIMENS WERE THEN CUT INTO PIECES (WITH AVOIDANCE OF ADDNL. WORK HARDENING). THESE SPECIMENS WERE SUBJECTED TO TENSION WITH THE FOLLOWING ELONGATION RATES: 2,4,10,20,50,100, 500, AND 1000 MM-MIN. THE PLASTICITY WAS DETD. AT 20-600DEGREES AT INTERVALS OF 25DEGREES. INITIAL PLASTIC DEFORMATION HAD A LARGE EFFECT ON THE MECH. PROPERTIES. AT 20-250DEGREES THE PLASTICITY OF PRELIMINARILY DEFORMED AL DECREASED SINGNIFICANTLY, WHILE AT 350-600DEGREES THE PLASTICITY INCREASED. IN THE LOW PLASTICITY ZONE, PLASTICITY MAX. OCCURRED AT 100, 200, AND 300DEGREES. RHEOTROPIC RECOVERY WAS ACCOMPAINED BY AN ABNORMALLY HIGH PLASTICITY AT SIMILAR TO 575DEGREES. THE SUPERPLASTICITY (ACCOMPANIED BY RECRYSTN. WITH STABILIZATION) OCCURRED NOT ONLY WITH ALLOYS BUT ALSO WITH PURE METALS (AL) AND IS THE RESULT OF DEFORMATION AND STABILIZATION.

UNCLASSIFIED

USSR

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BOK, B. I., PRESNYAKOV, A. A.

"Microhardness of Deformed Aluminum of Industrial Purity"

Alma-Ata, Vestnik Akademii Nauk Kazakhskoy SSR, March 1970, p 71

Abstract: The article presents experimental data on the microhardness of aluminum as a function of the hardening temperature and degree of rolling. Aluminum with a purity of 99.7% and degrees of cold hardening of 0, 13, 30, 50, 60, 70, and 80% was used for the study. Hardening of the samples studied was carried out with temperatures of 600°C and below and immersion in water at room temperature.

Based on an analysis of the experimental data, a conclusion is made by the authors that a transformation in the aluminum occurs at about 400°C which sets the hardening.

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USSR

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SERGEYEV, O. A.

"The Effect of the Radiation Component on the Heat Transfer Process in Transparent Media"

V sb. Teplofiz. svoystva tverdykh tel pri vysokikh temperaturakh. T. I. (Physical Properties of Solids at High Temperatures. Vol I -- Collection of Works), Moscow, 1969, pp 303-314 (from RZh-Fizika, No 12, Dec 69, Abstract No 12Ye6)

Translation: An analytical solution of the problem is obtained which makes it possible to account strictly for the radiant component in calculating the heat conductivity coefficient of transparent media in all temperature intervals for samples of arbitrary thickness. 22 references. Authors abstract.

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USSR

BOK, B. I.

"Plasticity of Aluminum of Industrial Purity with a Small Initial Deformation"

Alma-Ata, Vestnik Akademii Nauk Kazakhskoy SSR, March 1970, p 71

Abstract: Experimental data are given for the variation with temperature of the plasticity of aluminum in the interval from 20 to 600°C. The material used for the study was 99.7% pure. The rates of expansion were taken to be 2, 20, 100, and 1000 mm/min.

On the basis of an analysis of the experimental data, the author concludes that a transformation takes place in the aluminum in the thermal region of 500 to 600°C.

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1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--CALCUALTION OF DIPOLE MOMENTS OF NITROALKANES IN A MO LCAO APPROXIMATION -U-

AUTHOR-(02)-BORISOVA, N.P., SOKACHEVA, L.P.

B

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 99-101

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CALCULATION, DIPOLE MOMENT, ORGANIC NITRO COMPOUND, ALKANE, NITROMETHANE, ELECTRON DINSITY, MOLECULAR ORBITAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1255 STEP NO--UR/0192/70/011/001/0099/0101

CIRC ACCESSION NO--AP0128671

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128671

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT WAS MADE TO EXTEND THE DEL KE METHOD TO CALC. THE DIPOLE MOMENTS TO NITRO COMPDS. AS WELL AS TO NITRO SUBSTITUTED SATD. HYDROCARBONS. MENO SUB2 WAS USED AS A MOL. FOR THE SELECTION OF PARAMETERS. THE PI ELECTRONIC COMPONENT OF THE NITRO GROUP DIPOLE MOMENT WAS CALCD. IN TERMS OF THE DISTRIBUTION OF PI ELECTRON D. BY A REASONABLE SELECTION OF PARAMETERS. WITH THE INCREASE IN N,C,N ANGLE THE DIPOLE MOMENT OF CH(NO SUB2) SUB3 DECREASES AT THE EXPENSE OF A DIRECT CHANGE IN THE GEOMETRY OF THE MOL. AND SIGMA CHARGES ON THE ATOMS WITH THE FIRST EFFECT BEING STRONGER. FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 547.26'118

GRITSAY, N. I., VIL'DANOVA, G. G., BOKALO, G. A., ZEMLYANSKIY, N. I., Lvov State University imeni Ivan Franko, Lvov, Ministry of Higher and Secondary Specialized Education Ukrainian SSR

"Arylation Reaction of O,O-Diphenyl-S-alkenedithiophosphonic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 9, Sep 70, pp 1973-1976

Abstract: O,O-Diphenyl-S-alkenedithiophosphates (I) were obtained by reacting O,O-diphenyldithiophosphate with alkenyl bromide in acetone. To carry out the arylation reaction, a solution of diazonium salt prepared from 0.016 g-mole of an amine, 4.8 ml concentrated HCl and 0.016 g-mole of sodium nitrite was added dropwise to a cooled mixture of (I)and 0.57 g $CuCl_2.2\ H_2O$ in 50 ml acetone. Nitrogen evolution was observed at 3-4° in the case of the addition of p-nitrophenyl, at 16-18° with p-tolyl, and at 23° with phenyl diazonium chloride. After 2-3 hrs, when nitrogen evolution stopped, the oil was extracted with ether, the solvent evaporated, and the residue vacuum distilled. The product was chromatographed over alumina.

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USSR

UDC 547.341.3:543.422.3'6

STEPANOV, B. I., CHEKUNINA, L. I., and BOKANOV, A. I., Moscow Chemical Technological Institute imeni D. I. Mendeleyev

"Synthesis and Investigation of p-Nitrophenylethynylphosphines and Phosphine Oxides"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 12, Dec 73, pp 2648-2654

Abstract: A synthetic method has been developed for arylbis(p-nitrophenylethynyl)phosphines based on the reaction of aryldichlorophosphines with copper p-nitrophenylacetylenide. Introduction of a dimethylamino group into the aromatic ring of the phenylbis(p-nitrophenylethynyl)phosphoric compounds results in an appearance of new bands in electronic spectra which are due to the electronic transfer with delocalization of the electron through the phosphorus atom.

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USSR

UDC 543.422.27:541.515:547.1'118

SOLODOVNIKOV, S. P., BOKANOV, A. I., CHEKUNINA, L. I., and STEPANOV, B. I., Institute of Elemental Organic Compounds, Academy of Sciences SSSR and Moscow Chemical Technology Institute imeni D. I. Mendeleyeva

"ESR Spectra of the Anion Radicals of Phenyl-bis-(p-nitrophenylethynyl) phosphine and Phosphenoxides"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, 1, Jan 73, pp 205-206

Abstract: The ultrafine structures of ESR spectra of the anion radicals of $(p\text{-}NO_2C_6H_4C{\equiv}C\text{-})_2\text{-}P(C_6H_4X\text{-}p)$ (I), for X = H, Cl, $N(CH_3)_2$ and $(p\text{-}NO_2C_6H_4C{\equiv}C\text{-})_2P(O)C_6H_5$ (II). The electrons appear to be localized only in the p-nitrophenylacetyl fragment of (I) for X = H. The substitution of $N(CH_3)_2$ for H results in a small increase in the splitting of the P relative to H (and also to X = Cl). The secondary spectra of (I) and (II) have the same form as those of the anions. The polarographic reduction of I for X = H and II did not show a σ-system for the nitrophenylethynyl group through the P atom. Measurement of the electrode potential of the first half wave relative to a saturated calomel electrode in acetonitrile gave the following values for $-E_{1/2}$ in volts: $C_6H_5NO_2$, 1.10; p-HC $C_6H_4NO_2$, 0.99; (I) for X = H, 0.94; and (II), 0.94.

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USSR

UDC 547.538.2'341.3:543.422.62'4'6

CHEKUNINA, L. I., BOKANOV, A. I., and STEPANOV, B. I., Moscow Institute of Chemical Technology imeni D. I. Mendeleyev

"Spectral Properties of Phenylethynylphosphines and Phosphine Oxides"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), No 5, May 72, pp 995-999

Abstract: The authors' study revealed that phosphorus blocks the conjugated π systems of phenylethynyl groups in tertiary phenyl(phenylethinyl)phosphines and phosphine oxides. The spectral indications of conjugation in the oxide of p-dimethylaminophenyl-bis(phenylethynyl)phosphine are, probably, a result of the interaction of the π^* orbitals of the triple bond and the p-dimethylaminophenyl through the d orbitals of phosphorus. The article contains two illustrations of ultraviolet spectra and two tables. One table gives the physical properties of phosphorus-containing derivatives of phenylacetylene, and the other describes the dependence of the properties of the main band of dimethylanilines $p\text{-}XC_6H_4N(CH_3)_2$ on the nature of the substituent X.

USSR

UDC 547.538.2'341.3:543.257.1

CHEKUNINA, L. I., BOKANOV, A. I., STEPANOV, B. I.

"Electrophilic Nature of Bis(arylethinyl)phosphonous and bis(arylethinyl)phosphinyl Radicals"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 110-112

Abstract: In a previous study of the alkalinity of dimethylanilines in nitromethane [B. A. Korolev, et al., ZhOKh, No 39, 1161, 1969], it was demonstrated that their pK_a (CH_3NO_2) are correlated by the nucleophilic constants σ^-, however, the accuracy of the correlation equation was low as a result of an inadequate set of substances: 3 compounds, r 0.986, s 0.40. In this paper, dimethylanilines are used as the standard substances the alkalinity of which is described by the equation (r 0.990, s 0.23):

$$pK_a(CH_3NO_2) = 10.77 - (3.62 \pm 0.13)\sigma^-$$

The n-dimethylaminophenyl-bis(arylethinyl)phosphines and phosphinoxides were protonized with respect to nitrogen. The σ^- constants were determined for four organophosphorus substitutions with arylethinyl radicals on the phosphorus. In the investigated bis(arylethinyl)phosphines, the unshared phosphorus electrons

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USSR

CHEKUNINA, L. I., et al., Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 110-112

do not participate in the conjugation transfer. The ultraviolet spectra of the investigated substances are presented.

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SYNTHESIS AND PROPERTIES OF TERTIARY MESITYLETHYL PHOSPHINES -U-

AUTHOR-(05)-ILINA, L.K., KARAVANOV, K.V., KARPOVA, YE.N., BOKANOV, A.I., STEPANOV, B.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 581-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, ORGANIC PHOSPHORUS COMPOUND, ORGANOMAGNESIUM COMPOUND, OXIDATION, ORGANIC OXIDE, BENZENE DERIVATIVE, ISOTOPE, ORGANIC NITRO COMPOUND, IMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1069 STEP NO--UR/0079/70/040/003/0581/0584

CIRC ACCESSION NO--AP0128496

UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0123496

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MESITYLMAGNESIUM BROMIDE FROM 2.4 G MG AND 12.5 G ET SUB2 PCL MIXED AT MINUS 10DEGREES IN THF AND REFLUXED 0.5 HR GAVE 59PERCENT MESITYLDIETHYLPHOSPHINE (I), B SUB1 100-2DEGREES, D PRIME20 0.959, N PRIME20 SUBD 1.5500; ETHIODIDE M. 132-3DEGREES, WITH NA PICRATE GAVE THE CORRESPONDING PICRATE, M. 78.5-80DEGREES. SIMILARLY ETPCL SUB2 AND RMGBR GAVE 70PERCENT DIMESITYLETHYLPHOSPHINE (II), B SUB1 176-8DEGREES, M. 116-17DEGREES; ETHIODIDE, M. 278-80DEGREES, GAVE THE PICRATE, M. 170-1DEGREES. OXIDN. OF R SUB3 P WITH 4PERCENT H SUB2 O SUB2 GAVE 74PERCENT MESITYLDIETHYLPHOSPHINE OXIDE, B SUB1 150-2DEGREES, 1.040, 1.5480, AND 91PERCENT DIMESITYLETHYLPHOSPHINE OXIDE, M. 143-4DEGREES. I AND P,O SUB2 NC SUB6 H SUB4 N SUB3 IN ET SUB2 O AT 0-5DEGREES, FINALLY AT REFLUX 1 HR, GAVE I P NITROPHENYLIMINE (III), M. 118-19DEGREES; II ANALOG (IV), M. 188-9DEGREES. THE FORMER WAS UNSTABLE IN AIR, THE LATTER STABLE. IN MEND SUB2, III GAVE THE IONIZATION CONST. BY TITRN. (KOROLEV AND STEPANOV, (1968) PKA 15.95, AND COMPARED WITH 14.43 FOR IV, AND 15.72 FOR P,MEC SUB6 H SUB4 PET SUB2:NC SUB6 H SUB4 NO SUB2,P. THE CHEM. SHIFT OF PRIME31 P IN I WAS 19 PPM AND IN TRIMESITYLPHOSPHINE 39. THUS, THE EXCHANGE OF MESITYL FOR ET OCES NOT LEAD TO ANGLE DEFORMATIONS IN R SUB3 P. FACILITY: MOSK. KHIM.-TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 547.558.1

STEPANOV, B. I., BOKANOV, A. I., and SVERGUN, V. I., Moscow Chemical-Technological Institute imeni D. I. Mendeleyev

"Spectral Properties and Structure of Tertiary Mesityl(ethyl)phosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 41 (103), No 3, Mar 71, pp 533-536

Abstract: Chemical and spectral properties of aromatic phosphines indicate absence of conjugation between aromatic substituents and the unshared pair of electrons at the phosphorus atom. Schindlbauer proposed that in case of tris-o-tolylphosphine the valence angles at the phosphorus atom are enlarged due to steric hindrance, the p-character of unshared electrons is increased and they become conjugated. An attempt was made to check this out on the example of trimesitylphosphine. The study showed that in the basic state the valence angles of the phosphorus atom in trimesitylphosphine molecule are not deformed the unshared electrons are not conjugated with aromatic nuclei, and the bathochromic shift observed in the UV spectrum is evidently due to the stabilization of an excited molecule.

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1/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--ALLERGIC REACTIONS IN STOMATOLOGICAL PATIENTS -U-

AUTHOR-(02)-BOKANOVA, ZH.V., PANIN, M.G.

COUNTRY OF INFO--USSR

SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 3, PP 24-26

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORAL DISEASE, ALLERGIC DISEASE, SELECTIVE DRUG EFFECT, ANALGESIC DRUG, ANTIBIOTIC, PENICILLIN, STREPTOMYCIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0097 STEP NO--UR/0511/70/049/003/0024/0026

CIRC ACCESSION NO--AP0120797

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

2/2 023 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120797

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM PERTINENT LITERATURE DATA IT IS KNOWN THAT DURING THE LAST YEARS THERE IS SEEN A TENDENCY TOWARDS AND INCREASED INCIDENCE OF NONSPECIFIC, MAINLY ALLERGIC COMPLICATIONS FROM DIFFERENT DRUGS IN THE STOMATOLOGICAL PRACTICE. THE AUTHORS REPORT ON 30 STOMATOLOGICAL PATIENTS (25 WOMEN AND 5 MEN, AGED 13-73 YEARS) WITH ALLERGIC REACTIONS TO DIFFERENT MEDICINAL SUBSTANCES (NOVOCAIN, PENICILLIN, STREPTOMYCIN, IODOLIPOL, CALCIUM CHLORIDE, DICAIN, STREPTOCID, AMIDOPYRINE, ANALGIN). THE ALLERGIC REACTIONS ARE DESCRIBED. FACILITY: VSES. TSENTR PO IZUCHENIYU POBOCHNOGO DEYSTVIYA LEKARSTV MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, KAFEDRA KHIRURGICHESKOY STOMATOLOGII MOSKOVSKOGO MEDITSINSKOGO STOMATOLOGICHESKOGO INSTITUTA, AND KAFEDRA STOMATOLOGII I MOSKOVSKOGO MEDITSINSKOGO INSTITUTA IM. SECHENOVA.

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

USSR

UDC 632.95

KORNOUKHOVA, M. V., LOMAKINA, V. I., MANDEL'BAUM, Ya. A., GAR, K. A., GOLYSHIN, N. M., BOKAREV, Ye. M., FEDOSEYENKO, L. G., and BODROVA, M. R.

"Reaction of Thiophosphate Hydrazides with Sulfochlorides"

V sb. Khim. sredstva zashchity rast. (Chemical Protection of Plants -- collection of works), No 2, Moscow, 1972, pp 194-199 (from RZh-Khimiya, No 22, 25 Nov 73, Abstract No 22N567 by L. V. Razvodovskaya)

Translation: Compounds with the general formula $R^1(RO)P(S)NHNHSO_2R^2$ (I) and $R^3XP(S)(NHNHSO_2R^2)_2$ (II) (R = alkyl, R^1 = aryloxy, NHR, NR_2, R^2 2 R^3 = alkyl, aryl, X = O or NH) are obtained from the reaction of $R^1(RO)P(S)NHNH_2$ (III) or $R^3XP(S)(NHNH_2)_2$ (IV) with $ClSO_2R^2$. Examples. (1) 0.03 mole of Et_3N solution in 30 ml of C_6H_6 at 20° is added to 0.03 mole of III (R = Et, R^1 = PhO) and 0.03 mole of Et_3N in 70 ml of C_6H_6. The mixture is mixed for 5 hours at 35 to 40° and the sediment is filtered off. The filtrate is washed, dried, and the solvent distilled off to obtain I (R = R^2 = Et, R^1 = PhO, yield 66%, melting point 91-3°. I is obtained in a similar fashion (R, R^1, yield in %, melting point in °C or n_D^{25} and d_4^{25} are given): Me, iso-PrNH, Me, 70, 1.5204, 1.2964;

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USSR

KORNOUKHOVA, M. V., et al., Khim. sredstva zashchity rast, No 2, 1972, pp 194-199

Et, iso-PrNH, Ph, 56, 117-8; Et, iso-BuNH, Me, 84, 1.505, 1.1974; Ph, iso-PrNH, Et, 68, 66-8; Et, Me_2N, PhMe, 30, 78-80; Et, Et_2N, Et, 50, 1.5148, 1.2035; Et, Et_2N, PhMe, 55, 1.5350, 1.1756; Et, PhO, Ph, 55, 72-4. (2) 0.05 mole of $PhSO_2Cl$ at 20° is added to a solution of 0.05 mole of IV (R^3X = PhO) and 0.05 mole of Et_3N in 100 ml of alcohol. The mixture is mixed for 6 hours at 20° and 8 hours at 60-70°; the alcohol is distilled off in part. The sediment is filtered off and the filtrate evaporated to obtain II (R^2=R^3=Ph, X = O), yield 56%, melting point 168-70°. II is obtained in a similar fashion (R^3X, R^2 yield in %, melting point in °C are given): EtO, Et, 50, 158-60, EtO, Ph, 30, 102-5; PhO, Me, 45, 173-5; PhNH, Me, 46, -. I and II have fungicidal and weak contact insecticidal activity.

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(4)

USSR

NEL'NIKOV, N. N., MANDEL'BAUM, YA. A., ABRAMOVA, G. L., SMIRNOVA, N. S., GAR, K. A., BOKAREV, YE. M., ORLOVA, V. I., and MAKEYEVA, V. F.

"Synthesis and Pesticidal Activity of Dithiophosphoric Acid Amides"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protective Agents -- collection of works), No 2, Moscow, 1972, pp 210-214 (from RZh-Khimiya, No 19, Oct 73, Abstract No 19N479)

Translation: Studying the relationship of structure-pesticidal activity a series of amides $R'R''N(ClCH_2CH_2O)P(S)SR'''$ (I) has been synthesized and evaluated (R=alkyl; R'=H or alkyl; R'''=alkyl, Ph, substituted phenyl) the compounds showing insecticidal and acaricidal activity. The following I have been obtained (R', R'', R''', d_4^{20}, n_D^{20}, m.p. °C being reported):

Me, H, Pr, 1.2210, 1.5450, -; Et, H, Pr, 1.1956, 1,5380, -; Pr, H, Pr, 1.1660, 1.5300, -; iso-Pr, H, Pr, 1.1735, 1.5318, -; Bu, H, Pr, 1.1485, 1.5320, -; iso-Bu, H, Pr, 1.1505, 1.5280, -; Me, H, Bu, 1,2018, 1.5410, -; Et, H, BU, 1.1795, 1.5360, -; Pr, H, Bu, 1.1500,

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(4)

USSR

MEL'NIKOV, et al., V sb. Khim sredstva zashchity rast., No 2, Moscow, 1972, pp 210-214

1.5285, -; iso-Pr, H, Bu, 1.1295, 1.5310, -; Bu, H, Bu, 1.1285, 1.5280, -; iso-Bu, H, Bu, 1.1285, 1.1545, -; Me, Me, Pr, 1.2123, 1.5450, -; Et, Et, Pr, 1.1313, 1.5180, -; Pr, Pr, Pr, 1.0831, 1.5040, -; Bu, Bu, Pr, 1.0601, 1.5031, -; Me, Me, iso-Pr, 1.1900, 1.5325, -; Et, Et, iso-Pr, 1.1233, 1.5160, -; Pr, Pr, iso-Pr, 1.0910, 1.5080, -; Bu, Bu, iso-Pr, 1.0732, 1.5090, -; Me, Me, Bu, 1.2133, 1.5500, -; Et, Et, Bu, 1.1123, 1.5160, -; Pr, Pr, Bu, 1.0827, 1.5160, -; Bu, Bu, Bu, 1.0581, 1.5060, -; Me, H, Ph, -, -, 124; Et, H, Ph, -, -, 65; Pr, H, Ph, -, -, 60; iso-Pr, H, Ph, -, -, 74-5; Bu, H, Ph, -, -, 45; iso-Bu, H, Ph, -, -, 78-9; Me, H, C_6H_4Cl-4, -, -, 118-9; Et, H, C_6H_4Cl-4, -, -,

(4)

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MEL'NIKOV, et al., V sv. Khim sredstva zashchity rast., No 2, Moscow, 1972 pp 210-214

71-2; Pr, H, C_6H_4Cl-4, -, -, 59-60; iso-Pr, H, C_6H_4Cl-4, -, -, 60-1; Bu, H, C_6H_4Cl-4, -, -, 60-1; iso-Bu, H, C_6H_4Cl-4, -, -, 61-62; Me, Me, C_6H_4Cl-4, 1.3632, 1.6081, -; Et, Et, C_6H_4Cl-4, 1.2700, 1.5705, -; Pr, Pr, C_6H_4Cl-4, 1.2261, 1.5565, -; Bu, Bu, C_6H_4Cl-4, 1.1821, 1.5530, -; Me, Me, Ph, 1.2561, 1.5720, -; Et, Et, Ph, 1.2223, 1.5675, -; Pr, Pr, Ph, 1.1700, 1.5520, -; Bu, Bu, Ph, 1.1610, 1.5500, -; Me, Me, $C_6H_3Cl_2$-2,5, -, -, 74-75; Et, Et, $C_6H_3Cl_2$-2,5, -, -, 70-1; Pr, Pr, $C_6H_3Cl_2$-2,5, -, -, 66-7; Bu, Bu, $C_6H_3Cl_2$-2,5, 1.2763, 1.5660, -; Me, H, Ph, -, -, 74-5; Et, H, Ph, -, -, 73-4; Pr, H, Ph, -, -, 64-5; iso-Pr, H, Ph, -,

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(4)

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MEL'NIKOV, N. N., et al., V sb. Khim. sredstva zashchity rast., No 2, Moscow, 1972, pp 210-214

-, 69-70; Bu, H, Ph, -, -, 59-60; iso-Bu, H, Ph, -, -, 83-4; Me, Me, Ph, -, -, 78-9; Et, Et, C_6H_5, -, -, 61-3; Bu, Bu, C_6Cl_5, -, -, 70-1; Me, H, $C_6H_4NO_2$-4, -, -, 69-70; Et, H, $C_6H_4NO_2$-4, -, -, 65-6; Pr, H, $C_6H_4NO_2$-4, -, -, 62-3; iso-Pr, H, $C_6H_4NO_2$-4, -, -, 60-1; Bu, H, $C_6H_4NO_2$-4, -, -, 62-3; iso-Bu, H, $C_6H_4NO_2$-4, -, -, 60-2; Me, Me, $C_6H_4NO_2$-4, -, -, 73-4; Et, Et, $C_6H_4NO_2$-4, -, -, 70-1; Pr, Pr, $C_6H_4NO_2$-4, -, -, 69-70; Bu, Bu, $C_6H_4NO_2$-4, -, -, 65-6.

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USSR

UDC 621.348.629.113.004.15

KOSSOV, M. A., Candidate of Technical Sciences, BOKAREVA, A. A., ZVEZDINA, N. S., GREKOV, L. I., SEDINA, G. I., NAMI(Central Scientific Research Institute of Motor Vehicles and Motor-Vehicle Engines)

''The Technical and Economic Effectiveness of Using Gas-Turbine Engines on Trucks Under the Conditions of the North''

Moscow, Avtomobil'naya Promyshlennost', No. 7, 1971, pp 5-10

Abstract: For a piston engine in operation, the problem of change of the parameters of the characteristics with a drop in the air temperature is not as acute as for a gas-turbine engine. However, the starting of a piston engine, particularly of a diesel engine, under low air-temperature conditions is considerably more difficult. It is economically advantageous to use gas-turbine motor-vehicle engines in the northern regions when the maximum cost of these engines is up to 20 rubles per horsepower for engines with a capacity of 1200 horsepower, up to 22 rubles per horsepower for a capacity of 660-720 horsepower, and up to 18 rubles per horsepower for an engine capacity of 240 horsepower. These costs are actual costs, and can be obtained

USSR

KOSSOV, M. A., et al., Avtomobil'naya Promyshlennost', No 7, 1971, pp 5-10

in the series production of gas-turbine engines of the types under consideration. The possibility of obtaining large savings in the national economy is an objective prerequisite for the creation of modern and promising gas-turbine engines with a capacity of 1500-1200, 900-600, and 250-400 horsepower with a specific fuel consumption of 0.170-0.210 kg per horsepower, and the preparation of their series production and operation first of all in the northern and northwestern regions of the USSR.

2/2

USSR

UDC 669-172:541.12.03

SAVITSKIY, Ye. M., BUROV, I. V., LITVAN, L. N., BURKHANOV, G. S., and BOKAREVA, N. N.

"Work Function of Single Crystals of Molybdenum-Niobium System Alloys on (111) Face in a Vacuum"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 74-77

Translation: The work function of single crystals of the molybdenum-niobium system of alloys on the (111) face is measured in a vacuum of 10^{-9} torr throughout the entire range of concentrations. Using a thermo-emission projector, an emission picture is produced for the alloy Mo + 42% Nb, and anisotropy is established similar to that produced for pure metals with a BCC lattice. The experimental results produced with single crystals of the alloys confirmed the general nature of the monotonous change in emission properties in solid solutions of binary equilibrium systems both for polycrystals and for single crystals. In performing measurements with single crystals, a change was noted in the fine structure of the alloys, influencing their emission properties. 2 Tables; 2 Figures; 11 Bibliographic References.

1/1

USSR

UDC 669-172

SAVITSKIY, Ye. M., BURKHANOV, G. S., and BOKAREVA, N. N.

"Orientation Dependence in Extension of Molybdenum Single Crystals"

Monokristally Tugoplavkikh i Redkikh Metallov [Single Crystals of Refractory and Rare Metals -- Collection of Works], Nauka Press, 1971, pp 171-176

Translation: When molybdenum single crystals grown by cathode ray zone vacuum melting in the [100], [110], and [111] directions are put in extension at room temperature, strong anisotropy of mechanical properties is noted. The greatest plasticity is noted when the axis of extension corresponds to the [110] direction, the greatest strength -- when this axis corresponds to the [100] direction. Anisotropy with respect to σ reaches 30%, with respect to δ -- 20% and ψ -- 30%. The course of the deformation curves for various orientations, like the anisotropy of plasticity, is explained on the basis of the orientation dependence of intersecting slippage in the BCC lattice. 4 Figures; 10 Bibliographic References.

1/1

USSR

UDC 669.71.017:669.785/788

GAVIDULLIN, R. M., YAKUSHEV, V. A., BOKATUYEVA, T. A., and UVAROVA, T. A., Moscow Aviation Technological Institute, Chair of the Science of Metals and of the Heat Treatment of Metals

"Kinetics of Hydrogen Redistribution in Aluminum in the Process of Heat Treatment"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1973, pp 114-119

Abstract: The duration of establishing the thermodynamic equilibrium between the hydrogen concentration in the Al solid solution and its pressure in the pores was calculated with the help of a hydraulic integrator assuming a continuous distribution of pores in the metal and an initial pore radius of $5 \cdot 10^{-6}$ cm. Derived formulas were used for the determination of the incubation and the growing period of pores. The time-dependent relative change of the pore radius is shown. For the investigated conditions of heat treatment at 400-600°, the duration of equilibrium achievement does not exceed two seconds. The principal growing process of pores at heat treatment proceeds by the coalescence mechanism. The short period of hydrogen redistribution is of particular

USSR

GABIDULLIN, R. M., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 1973, pp 114-119

use in specifying the mechanism of the development of internal defects in deformed aluminum alloys. Two figures, two bibliographic references, 16 formulas.

2/2

Surgery

USSR

BURAKOVSKIY, V., Doctor of Medical Sciences, Professor, Director of Institute of Cardiovascular Surgery; BOKERIYA, L., Candidate of Medical Sciences, Senior Scientific Associate, Institute of Cardiovascular Surgery, imeni A. N. Bakulev, Academy of Medical Sciences USSR

"Surgery in a Pressure Chamber"

Moscow, Nauka i Zhizn', No 7, 1971, pp 39-43

Abstract: A popular account is presented of hyperbaric oxygenation (use of oxygen under pressure in surgery and for other medical purposes), the discovery of which, it is said, rivals in importance the discovery of antibiotics and anesthesia. The role of oxygen in the human body is described, and the history of hyperbaric oxygenation from its beginnings in the 1840's to its present-day use at the Bakulev Institute of Cardiovascular Surgery is traced. The pathological conditions for which this treatment is indicated are mentioned, and other potential applications, on which research is now under way in the Soviet Union and elsewhere, are discussed (combination of hyperbaric oxygena-

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USSR

BURAKOVSKIY, V., et al, Nauka i Zhizn', No 7, 1971, pp 39-43

tion with hypothermia and extracorporeal circulation, utilization for the preservation of organs and tissues, etc.). The article includes a brief description of the operating room used at the Bakulev Institute for surgery employing hyperbaric oxygenation (with photographs and a diagram of the layout and equipment).

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USSR

UDC 615.835.3

BURAKOVSKIY, V. I., BOKERIYA, L. A., and BERGEL'SON, M. N., Institute of Cardiovascular Surgery imeni A. N. Bakulev, Academy of Medical Sciences USSR, Moscow

"Hyperbaric Oxygenation Principles of Use. Indications. Regimes"

Moscow, Eksperimental'naya Khirurgiya i Anesteziologiya, Vol 15, No 3, May/Jun 70, pp 52-62

Abstract: Available data on hyperbaric oxygenation in hypoxia and cardiovascular surgery are reviewed. Application of hyperbaric oxygenation in cardiovascular surgery is considered from two points of view: 1) the possibility of application in combination with hypothermia for temporary exclusion of the heart from circulation, and 2) use in surgery of congenital heart defects of the blue type. In 38 experiments conducted on dogs at the Institute imeni Bakulev, hyperbaric oxygenation was applied for 60-80 min in a pressure chamber at an air pressure of 3.5 atm, while the body temperature was lowered to 16-20°C by using artificial circulation bypassing the heart. Artificial respiration was used. Circulation was interrupted for 60 min. Hypothermia eliminated hyperbaric vascular spasms. Fibrillation of the ventricles during restoration of cardiac activity was stopped by injection of 1-1.5 g KCl in solution. As shown by the EEG, the brain activity was not impaired. Hyperbaric oxygenation was also applied in experiments on dogs in which a blue

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APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

USSR

BURAKOVSKIY, V. I., et al., Eksperimental'naya Khirurgiya i Anesteziologiya, Vol 15, No 3, May/Jun 70, pp 52-62

defect was artifically created by establishing a venous-arterial shunt. The principles of hyperbaric oxygenation by increasing air pressure are well known; the problem is determining the optimum conditions for its application. A differential equation is proposed by means of which the O_2 concentration in arterial and venous blood under various conditions of hyperbaric oxygenation can be determined in relation to the body weight, per minute volume of the blood, arterio-venous difference, and the size of the right-to-left shunt.

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--HYPERBARIC OXYGENATION -U-

AUTHOR-(03)-BURAKOVSKIY, V.I., BOKERIYA, L.A., BERGELSON, M.N.

COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 3, PP 52-62
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPERBARIC SURGERY, HEART SURGERY, OXYGEN METABOLISM, MATHEMATIC MODEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0917 STEP NO--UR/0481/70/000/003/0052/0062

CIRC ACCESSION NO--AP0126576
UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126576

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER IS DEVOTED TO THE PRESENT DAY DATA OF HYPERBARIC OXYGENATION. PRINCIPLES, INDICATIONS AND OPTIMUM REGIMES OF THE METHOD IN CARDIO VASCULAR SURGERY ARE GIVEN. HYPERBARIC OXYGENATION IN CARDIO SURGERY IS CONSIDERED IN TWO SEPARATE PROBLEMS: 1) COMBINED USE OF HYPERBARIC OXYGENATION AND DEEP HYPOTHERMIA, 2) POSSIBILITIES OF USE OF HYPERBARIC OXYGENATION IN THE SURGERY OF CONGENITAL HEART DEFECTS OF THE BLUE TYPE. COMBINED USE OF HYPOTHERMIA AND HYPERBARIC OXYGENATION PERMITS TO INCREASE THE EFFECT OF EACH SINGLE FACTOR. INDICATIONS FOR DEEP HYPOTHERMIA ARE THUS INCREASED. TO STUDY THE EFFECT OF HYPERBARIC OXYGENATION IN UNCORRECTED HYPOXIA IN ANIMALS CARDIAC DEFECT OF THE BLUE TYPE WAS CREATED ARTIFICIALLY. DATA OBTAINED PERMITTED TO ELICIT THE MAIN TRENDS OF OXYGEN SATURATION. A NEW MATHEMATICAL MODEL OF SATURATION UNDER HIGH PRESSURE WAS SUGGESTED. PRACTICAL RECOMMENDATIONS AS TO CHANGES IN THE ACID BASE BALANCE UNDER HIGH OXYGEN TENSION WITH THE RIGHT TO LEFT SHUNT ARE GIVEN. FACILITY: INSTITUT SERDECHNO SOSUDISTOY KHIRURGII IM. A. N. BAKULEVA, AMN SSSR, MOSKVA.

UNCLASSIFIED

USSR

UDC 666.768:621.387

BOKHAN, P. A., KLIMKIN, V. M.

"Investigation of the Properties of High-Temperature Gas-Discharge Tubes"

Moscow, Zhurnal Prikladnoy Spektroskopii, Vol 19, No 3, Sep 73, pp 414-418

Abstract: The authors investigate the spectroscopic, electrical, vacuum, and chemical properties of gas-discharge tubes for producing a nonequilibrium discharge in vapors of elements which are hard to vaporize. It is found that the best compounds for making usable discharge tubes are oxides of beryllium, aluminum, and yttrium. The paper presents particulars on the working parts of tubes made from beryllium ceramic, and high-temperature furnaces for heating them. The tubes are designed for high electrical strength and heat insulation. Highly pure materials are required for making the tubes, since it is almost impossible to remove impurities from finished ceramic parts. The chemical resistance of the tubes to the action of metal vapors is determined chiefly by the departure of chemical reaction products into the gas phase. Chemically stable tubes of yttrium ceramic have been made and tested. Such tubes have made it possible for the first time to obtain a positive discharge column in vapors of rare earth elements

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USSR

BOKHAN, P. A., KLIMKIN, V. M., Zhurnal Prikladnoy Spektroskopii, Vol 19, No 3, Sep 73, pp 414-418

of the cerium group. These gas-discharge tubes can be used as light sources in spectroscopy, as active elements in lasers, and in other fields. Discharges can be produced in all elements with a vaporization point below 1300°C.

2/2

BOKHAN, P.A

Spectroscopy

JPRS 54720

16 December 1971

UDC 621.375.9

FEASIBILITY OF INCREASING OUTPUT POWER FROM A CO_2-N_2-He MIXTURE

[Article by P. A. Bokhan and Ye. S. Yegorova; Moscow, Zhurnal Prikladnoy Spektroskopii, Russian, Vol 7, No 6, December 1971, pp 954-956]

As we know the lower working level of CO_2 molecules in a laser employing the mixture CO_2-N_2-He is depopulated due to the effective relaxational breakdown, which permits operation at relative large discharge tube diameters. However even at a diameter of the order of 60-70 mm, the effect of discharge pinching and heating of the gas is so appreciable that a further rise in output power does not occur with increase in tube diameter. Owing to pinching, the specific power in the discharge is greater at the tube axis than along its periphery, which leads to nonsimultaneous attainment of the optimum for pumping power over the tube cross-section. Additionally, cooling of the gas is least effective along the discharge axis, which further deteriorates pumping conditions. All this leads to a situation in which the power of the radiation obtained per meter of length of the active region is limited to 60-90 watts [1-2]. Therefore, the investigation of a non-pinching discharge is of definite interest.

A nonpinching discharge interval 150 cm was achieved in a 70 mm diameter water-cooled tube. A resonator was formed with two gold-plated mirrors, where one mirror was flat and the other concave with a radius of curvature of 6 m. The distance between the mirrors was 200 cm. The radiation was removed through a 10 mm opening in the center of the concave mirror. The laser was supplied with rectified, unfiltered voltage. Spectral recording was carried out with an IKS-12 spectrometer; the radiation power was measured with a calorimeter; and the gas temperature in the discharge region -- with a thermocouple.

Optimal conditions for generation in a CO_2-N_2-He mixture were as follows: CO_2 pressure 0.35 mm Hg, N_2 1.5 mm Hg, and He 6.5-7 mm Hg; power supplied to the discharge 2200 watts. Within the limits of resolution afforded

USSR

UDC 621.396.6-181.5

GUSAKOV, V. M., PARFENOV, R. I., BOKHANKEVICH, T. V.

"Use of a Computer to Calculate MOS-Transistorized Integrated Circuits"

Elektron. prom-st'. Nauch.-tekhn. sb. (Electronic Industry. Scientific-Technical Collection), 1970, No 2, pp 41-44 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4V183)

Translation: A model of a transistor with MOS structure is proposed which permits calculation of microcircuits with the MOS structure on computers. A method of solution is selected, and a program is written for calculating the transient process of the digital microcircuit with MOS structure in ALGOL-60. This program automatically compiles a system of differential equations describing the behavior of the circuit. The circuit of an inverter made of mutually complementing transistors with MOS structure is calculated analytically and on a computer, and the results obtained are compared with experimental data.

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USSR

UDC 551.508.5

BOKHANOV, V. YE.

"Problem of Checking Mechanical Wind Measuring Instruments"

Tr. Gl. geofiz. observ. (Transactions of the Main Geophysical Observatory), 1969, Vyp. 40, pp 132-137 (from RZh-Metrologiya i Izmeritel'naya Tekhnika, No 3, Mar 1970, Abstract No 3-32-854)

Translation: Based on results of tests made of vanes of glass-plastics in wind tunnels, aerodynamic characteristics, errors in checking anemometers in wind tunnels, and the possibility of checking them with a mechanical fan are investigated. Illustrations: 2. Bibliography: 4 entries.

1/1

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NONLINEAR FREQUENCY CONVERTER OF SPECIAL GEOMETRY -U-

AUTHOR-(04)-BOKNT, B.V., KAZAK, N.S., LUGINA, A.S., SAVKIN, A.YE.

COUNTRY OF INFO--USSR

B

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, FEB. 1970, P. 223-226

DATE PUBLISHED-------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--FREQUENCY CONVERTER, FREQUENCY SHIFTING, CRYSTAL, GEOMETRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0916 STEP NO--UR/0368/70/012/000/0223/0226

CIRC ACCESSION NO--AP0107445

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107445

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF A SPECIAL CUT OF KDP CRYSTAL CORRESPONDING TO A GIVEN TYPE OF NONLINEAR WAVE INTERACTION FOR THE PURPOSES OF FREQUENCY MULTIPLICATION (HARMONIC GENERATION), FREQUENCY SHIFTING (SUM AND DIFFERENCE FREQUENCY GENERATION), AND RETURNING OF LASER SYSTEMS. THIS ONE SINGLE CUT CONTAINS ALL POSSIBLE PHASE MATCH ANGLES REQUIRED FOR FREQUENCY CONVERSION AND TUNING WITHIN THE TRANSPARENCY BANDWIDTH OF THE CRYSTAL. IN SUCH A NONLINEAR CONVERTER, BEAM FOCUSING IS EFFECTIVELY UTILIZED TO IMPROVE CONVERSION EFFICIENCY, AND LOSSES DUE TO REFLECTION ARE REDUCED TO A MINIMUM. THE PROPOSED CONVERTER MAY BE USED AS THE BASIC ELEMENT FOR A NONLINEAR SPECTROGRAPH.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--ON INCREASING THE EFFICACY OF EPIBULBAR ANESTHESIA -U-

AUTHOR--BOKHON, N.N.

B

COUNTRY OF INFO--USSR

SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 2, PP 84-85

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANESTHESIA, PAIN, SUTURE, EYE, SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0694 STEP NO--UR/0357/70/000/002/0084/0085

CIRC ACCESSION NO--AP0102678

UNCLASSIFIED

2/2 033 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0102678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RETROBULBAR ANESTHESIA WITH A 2PERCENT NOVOCAIN SOLUTION IN CONJUNCTION WITH INSTILLATION OF A 0.5PERCENT DICAIN SOLUTION INTO THE CONJUNCTIVAL SAC DOES NOT ELIMINATE PAIN SENSATION IN SUTURING. TO ACHIEVE A MORE EFFICIENT ANESTHESIA DURING THIS MANIPULATION THE AUTHOR RECOMMENDS TO APPLY ADDITIONALLY TO THE EYEBALL CONJUNCTIVE ALONG THE COURSE OF THE MUSCLE A WAD SOAKED IN A 2PERCENT DICAIN SOLUTION, HOLDING IT IN PLACE BY MEANS OF A SMALL GLASS STICK.

UNCLASSIFIED

USSR

UDC 621.378.32

BURAKOV, V. S., BOKHONOV, A. F., and ZHUKOVSKIY, V. V., Institute of Physics, Academy of Sciences of the Belorussian SSR

"Determining the Parameters of a Ruby Laser by the Time Characteristics of the Discharge"

Minsk, Vestsi Akademii Navuk BSSR, Series on Physical-Mathematical Sciences, No 473, pp 73 - 76

Abstract: In optimizing laser operation, it is useful to know the coefficient of maximum amplification of the active elements, the coefficient of internal losses, and the absolute value of the rate of optical pumping. Several techniques have been suggested for determining these values, but the majority of these methods are based on measuring the energy values of the laser at the threshold of discharge or during discharge. Such measurements are subject to large experimental error, while methods based on measuring the time characteristics of the discharge are more promising. In ZhPS, Volume 3, page 171, Burakov, Zhukovskiy, and Samson reported the results of determining the parameters of a neodymium laser from the discharge start time. Similar techniques have now been applied to the ruby laser, although different methods of treating the results of the measurements were required. The investigation was also extended to cover another important time characteristic, the lag interval of the laser pulses.

USSR

BURAKOV, V. S., et al., Minsk, Vestsi Akademii Navuk BSSR, Series on Physical-Mathematical Sciences, No 473, pp 73 - 76

The frequency of laser pulsation is found to be a linear function of the useful loss value, so that this frequency can be used to determine the probability of pumping radiation and the coefficient of maximum amplification. If the coefficient of amplification is known, the maximum probability of radiation and the coefficient of internal losses can be determined from the data of laser discharge build-up time. In a number of cases it is possible to combine both methods to determine these laser parameters accurately.

2/2

USSR

UDC 612.886+612.58

BOKHOV, B. L. and VOYNOVA, I. I., Institute for Medical and Biological Problems, Moscow

"The Effect of Surface Hypothermia on Inhibitory Processes in the Vestibular Analysor"

Leningrad, Fiziologicheskiy Zhurnal SSSR, Vol 56, No 4, 1970, pp 570-574

Abstract: To induce oculo-gyric vestibular nystagmus (VN) the authors fixed rats to a rotating table. After a few rotations, the intensity and duration of VN was determined. With subsequent rotations a degree of tolerance was developed, with reduction in VN reaction. Testing these animals one day later showed some degree of retention of the acquired tolerance. However, cooling these animals to 30°C caused a complete loss of the previously acquired tolerance. Likewise, the animals who had acquired tolerance while in a state of hypothermia lost most of it upon returning to normal temperatures. It had been demonstrated by some workers that a disturbance in the vestibular apparatus can lead to a reduction of bodily temperature. It was concluded that all sudden disturbances, in either direction, impair the stabilizing functions of the vestibular apparatus.

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BOK.HOV, B.B.

JPRS 56,455
14 July 72

EFFECT OF SKILL IN UNDERWATER ORIENTATION ON PERCEPTION OF THE GRAVITATIONAL VERTICAL

[Article by S. N. Makarov and B. B. Bokhov, Moscow, Aviatsionno-Kosmicheskaya Biologiya i Meditsina (Current Problems in Space Biology and Medicine), Russian, 1971, pp 175-176]

It is well known that when immersed under water human subjects commit errors in attempts to determine "up" and "down." With repeated descent underwater man's capacity for determining his position underwater increases and can attain a high degree of accuracy. The most probable explanation of the training effect would be the assumption of an increase in differential sensitivity in the vestibular and also in the skin and motor analyzers. In order to check this hypothesis we carried out work on subjects who were broken down into six groups. The first group consisted of athletes engaged in underwater orientation (first-class divers, members of sport); the second group consisted of individuals in the second-class adult and third-class youth categories, and the third and fourth groups consisted of underwater swimmers with less experience (from 100 to 500 hours underwater), and finally, the sixth group included subjects without experience in underwater diving. All the investigations were made on the land using a "vertical" instrument. The problem in spatial orientation was to set up a light line in the darkness in conformity to the gravitational vertical.

The results indicated a high accuracy in orientation in the first group in comparison with the control group. The magnitude of the error in the third and fourth groups was approximately the same, but on the average was less than in the control group. In the fifth group, consisting of divers, the indices did not differ from the control data. Thus, immersion in water increases orientation accuracy under definite conditions.

1/2 03C UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--SURFACE HYPOTHERMIA EFFECT ON INHIBITION PROCESSES IN THE VESTIBULAR CENTER -U-

AUTHOR-(02)-BOKHOV, B.B., VOYNOVA, I.I.

B

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56, NR 4, PP 570-574

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYPOTHERMIA, RAT, VESTIBULAR APPARATUS, INHIBITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0391 STEP NO--UR/0239/70/056/004/0570/0574

CIRC ACCESSION NO--AP0132620

UNCLASSIFIED

2/2 C30 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132620

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SURFACE HYPOTHERMIA IN RATS WAS SHOWN TO AFFECT THE PROCESSES OF EXTINCTION INHIBITION IN THE VESTIBULAR CENTER LIKE AN EXTRA STIMULUS OR PHENAMINE. IN RATS WITH 30DEGREESC BODY TEMPERATURE, EXTINCTION OF THE NYSTAGMUS REFLEX SLOWED DOWN DURING REPEATED ROTATION. TRANSITION FROM THE NORMAL BODY TEMPERATURE TO THE SURFACE HYPOTHERMIA WAS FOLLOWED BY COMPLETE DESINHIBITION OF PREVIOUSLY EXTINGUISHED NYSTAGMUS. THE OBSERVED EFFECTS ARE REGARDED AS A RESULT OF INCREASING FUNCTIONAL ACTIVITY OF THE BRAIN STEM RETICULAR FORMATION DURING THE HYPOTHERMIA. FACILITY: INSTITUTE FOR MEDICAL BIOLOGICAL PROBLEMS, MOSCOW.

UNCLASSIFIED

Acc. Nr: AP0049098 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR0079

104532c Stability of complexes of dimethyl sulfoxide with monochloroacetic acid in the presence of carbamide, acetamide, and acetone. Bokhovkin, Yu. M.; Bokhovkina, Yu. L. (Arkhangel. Lesotekh. Inst., Arkhangel, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 3–7 (Russ). The following phase diagrams were detd. and described graphically: Me_2SO–$OC(NH_2)_2$ 1:1 and 1:2 complexes with a eutectic at 82 mole % Me_2SO and 8°, and transition points at 59 mole % Me_2SO and 32° and 32 mole % Me_2SO and 52°; Me_2SO–$AcNH_2$ no complexes, eutectic at 69 mole % Me_2SO at −9°; Me_2SO–Me_2CO no complexes and a eutectic at 96 mole % Me_2CO at −98°; Me_2SO–$ClCH_2CO_2H$ 1:1 and 1:2 complexes and 2 eutectic points: 42 mole % acid and −42° and 77 mole % acid at −5°; Me_2CO–$ClCH_2CO_2H$ a simple eutectic system; $AcNH_2$–$ClCH_2CO_2H$ contains 1:2 complex (max. at 8°) and 1:1 complex with latent max. on the plot; 2 eutectic points: 55.1% amide at 5.6°, and 45 mole % amide at 4.7°, along with peritectic point at 34.05 mole % $AcNH_2$ and 13.2°; $OC(NH_2)_2$–$ClCH_2CO_2H$ 1:2 and 1:1 complexes which are appreciably dissocd. The ternary system of the title compn. with Me_2CO was shown diagrammatically with its 3 singular points: 12 mole % Me_2SO and 14 mole % $ClCH_2$-

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19800902

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CO_2H at −108°, 13 mole % Me_2SO and 22 mole % $ClCH_2CO_2H$ at −111°, and 13 mole % Me_2SO and 26 mole % $ClCH_2CO_2H$ at −115°; the diagram was studied in 10 sections each of which is described in detail. Generally the stability of complexes of Me_2SO with the acid decreased in the presence of the 3rd component in the direction of: urea, $AcNH_2$, Me_2CO in ascending order of stability.

G. M. Kosolapoff

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1/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTION OF AMIDES WITH PHENOL -U-

AUTHOR-(02)-CHESNOKOV, V.F., BOKHOVKIN, I.M.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 528-35

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AMIDE, PHENOL, ISOTHERM, MELTING POINT, SPECIFIC DENSITY, SURFACE TENSION, IR SPECTRUM, ORGANIC COMPLEX COMPOUND, POLYMER DEGRADATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0858 STEP NO--UR/0079/70/040/003/0528/0535

CIRC ACCESSICN NO--AP0124521

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

2/2 029 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124521

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM ISOTHERMS OF M.P., VISCOSITY, D., AND SURFACE TENSION (SHOWN) FOR BINARY SYSTEMS OF PHOH OC(NH SUB2)SUB2, PHOH ACNH SUB2, AND THEIR IR SPECTRA, IT WAS SHOWN, IN COMPARISON WITH SIMILAR DATA FOR PHOH ACNME SUB2, WHICH WAS ALSO EXAMD., AS TO COND. VARIATION WITH COMPN., ALONG WITH THE PHOH HCONME SUB2 SYSTEM, THAT COMPLEXES OC(NH SUB2)SUB2 2PHOH, ACNH SUB2 2PHOH AND ME SUB2 NAC 2 PHOH FORM ONLY DURING CRYST. FROM THE LIQ. PHASE. THE DECOMPN. OF THE POLYMERIC ASSOCIATES OF PHOH IN REACTION WITH ACNME SUB2 OCCURS IN CONCN. OF THE LATTER THAT IS GREATER THAN MOLE PERCENT AND RESULTS IN A 1:1 COMPLEX. FACILITY: ARKHANGEL. LESOTEKH. INST., ARKHANGELSK, USSR.

UNCLASSIFIED

Acc. Nr: AP0049098 Abstracting Service: CHEMICAL ABST. 5/70 B Ref. Code: UR0079

104532c Stability of complexes of dimethyl sulfoxide with monochloroacetic acid in the presence of carbamide, acetamide, and acetone. Bokhovkin, I. M.; Bokhovkina, Yu. I. (Arkhangel. Lesotekh. Inst., Arkhangel, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 3–7 (Russ). The following phase diagrams were detd. and described graphically: Me_2SO–$OC(NH_2)_2$ 1:1 and 1:2 complexes with a eutectic at 82 mole % Me_2SO and 8°, and transition points at 59 mole % Me_2SO and 32° and 32 mole % Me_2SO and 52°; Me_2SO–$AcNH_2$ no complexes, eutectic at 69 mole % Me_2SO at −9°; Me_2SO–Me_2CO no complexes and a eutectic at 96 mole % Me_2CO at −95°; Me_2SO–$ClCH_2CO_2H$ 1:1 and 1:2 complexes and 2 eutectic points: 42 mole % acid and −42° and 77 mole % acid at −5°; Me_2CO–$ClCH_2CO_2H$ a simple eutectic system; $AcNH_2$–$ClCH_2CO_2H$ contains 1:2 complex (max. at 8°) and 1:1 complex with latent max. on the plot; 2 eutectic points: 55.1% amide at 5.6°, and 45 mole % amide at 4.7°, along with peritectic point at 34.05 mole % $AcNH_2$ and 13.2°; $OC(NH_2)_2$–$ClCH_2CO_2H$ 1:2 and 1:1 complexes which are appreciably dissocd. The ternary system of the title compn. with Me_2CO was shown diagrammatically with its 3 singular points: 12 mole % Me_2SO and 14 mole % $ClCH_2$-

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CO_2H at −108°, 13 mole % Me_2SO and 22 mole % $ClCH_2CO_2H$ at −111°, and 13 mole % Me_2SO and 26 mole % $ClCH_2CO_2H$ at −115°; the diagram was studied in 10 sections each of which is described in detail. Generally the stability of complexes of Me_2SO with the acid decreased in the presence of the 3rd component in the direction of: urea, $AcNH_2$, Me_2CO in ascending order of stability. G. M. Kosolapoff

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19800903

Pulse Technique

USSR UDC: 621.374.33(088.8)

BOKHUA, A. V., SPARSIASHVILI, P. D., KORENETSKIY, G. B., PODLUBNYY, G. I.,
Special Design Office of Tachometry

"A Time Interval Expander"

USSR Author's Certificate No 270795, filed 7 Mar 68, published 11 Aug 70
(from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2G326 P)

Translation: This Author's Certificate introduces a device for stretching the time interval between two pulses. The device contains two Kipp oscillators and circuits for isolating the leading and trailing edges of pulses. To improve the accuracy of extension of the time interval between pulses, the outputs of the Kipp oscillators are connected to the inputs of an AND circuit whose output is connected to the circuit for isolating the trailing edge of the pulses, and to the input of an OR circuit whose output is connected to the input of the circuit for isolating the leading edge of the pulses.

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USSR

UDC 612.3-0.6:613.34

BOKINA, A. I., and FADEYEVA, V. K., Institute of General and Communal Medicine imeni A. N. Sysin, Academy of Medical Sciences USSR, Moscow

"Characteristics of the Action of Desalinated Drinking Water on the State of the Gastrointestinal Tract"

Moscow, Gigiyena i Sanitariya, No 2, Feb 73, pp 93-94

Abstract: At the city of Shevchenko, the regularly supplied drinking water that is consumed by the inhabitants consists of sea water desalinated by distillation to which highly mineralized artesian well water of the chloride-sulfate-sodium type is added. The content of sulfates in this water during 1967-71 varied from 70 to 550 mg/l. Determinations were carried out of the acidity of the gastric juice of adult inhabitants of Shevchenko who had consumed the water supplied there for periods from less than 1 year to more than 5 years. In the study conducted, inhabitants of Moscow who consumed Moscow city water were used as controls. The results showed that consumption of the water supplied at Shevchenko tended to produce hypoacidity of the gastric juice. The frequency of occurrence of hypoacidity increased with the length of the sojourn in Shevchenko and with an increasing age of the inhabitants of this city. Women were affected to a somewhat greater

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USSR

BOKINA, A. I., and FADEYEVA, V. K., Gigiyena i Sanitariya, No 2, Feb 73, pp 93-94

extent than men. Determinations of enterokinase and alkaline phosphatase in the feces of children at Shevchenko showed that the enzyme formation in the small intestine was within normal limits, although the content of the two enzymes had a tendency to be lower than that for Moscow children.

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BOKINA, A. I.

JPRS 55320
1 Mar 72

UDC: 613/.614-07:001.8

SURVEY OF CURRENT METHODOLOGICAL APPROACHES IN HYGIENIC RESEARCH

[Article by A.I. Bokina, N.N. Pushkina, V.P. Smirnova, M.T. Dmitriyev; Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, Russian, No 1, 1972, pp 65-70]

In accordance with the main direction of our institute, investigation of the effect on the human body and on public health of diverse environmental factors, the chief direction of research in specialized laboratories is to determine the patterns of interaction between the organism and environment using physiological, biochemical, morphological, radiological, and physico-chemical investigative methods.

In the last few years, in connection with expanded studies of the effect of diverse environmental factors on the functional state of the organism and on public health, special attention has been given to development and adoption of new methodological approaches in conducting mass examinations. In this respect, a special place is occupied by methods of functional diagnosis of early functional changes in different systems and in the body as a whole. The main objective of mass examinations is not so much to detect overtly pathological consequences as to determine the degree of tension of regulatory mechanisms that prevent impairment of the normal state of the internal medium of the organism. Thus, for clinical and physiological surveys of the population such functional tests are used as the adrenal test, purine load test, diagnostic acid test, Volhard's and McClure-Aldrich tests, cold test, and a number of others.

Particularly fruitful are studies of interaction of different systems in the integral organism, permitting reliable substantiation of environmental conditions most compatible with a physiological state of the body.

Thus, in a mass study of the population for the purpose of investigating the effect of desalinated drinking water on the functional state of the organism, water-salt metabolism, cardiovascular condition, renal activity, gastrointestinal tract function, and complex reflex drinking reactions were examined.

Only the indices that have actual significance for the organism can be characterized as having a criterion of harmful effect. For example, decreased

Organometallic Compounds

USSR UDC 548.737

KUZ'MINA, L. G., ROKIY, N. G., STRUCHKOV, YU. T., ARUTYUNYAN, A. V., RYBIN, L. V., and RYBINSKAYA, M. I., Institute of Metalorganic Compounds, Academy of Sciences USSR

"Structure of 3,6-Duphenylpyridazino-diferrum-triphenylphosphine-pentacarbonyl"

Moscow, Zhurnal Strukturnoy Khimii, Vol 12, No 5, Sep-Oct 71, pp 875-882

Abstract: To determine objectively the structure of diarylpyridazine complexes with iron carbonyls, a complete roentgenographic analysis of the monophosphine complex $[(C_6H_5)_2C_4H_2N_1] \cdot [Fe_2P \cdot (C_6H_5)_3(CO)_5]$ was carried out. The binuclear molecule contains $Fe(CO)_3$ and $Fe(CO)_2PPh_3$ groups connected with a Fe-Fe bond and two nitrogen bridge atoms of the pyridazine moiety. Fe atoms are of the octahedral coordination, they are highly strained due to the formation of tetrahedral cluster system Fe_2N_2. The crystals are monoclinic with a= 23.98, b = 18.34, c= 8.39 Å $\beta = 107^{\circ}20'$, and and N = 4. The structure was obtained by the heavy atom method and refined by the least squares method to R = 12%. The pyridine ring acts as a diazo-bridge between two iron atoms also connected by the metal- metal bond. The most interesting bond lengths are: Fe-Fe = 2.51, N-N = 1.41, Fe-N = 1.92 Å. 1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--CRYSTAL STRUCTURE OF A COMPLEX OF GERMANIUM DICHLORIDE WITH 1,4,DIOXANE -U-

AUTHOR--KULISHOV, V.I., BOKIY, N.G., STRUCHKOV, YU.T., NEFEDOV, O.M., KOLESNIKOV, S.P.

COUNTRY OF INFO--USSR

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SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 71-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CRYSTAL STRUCTURE, GERMANIUM COMPOUND, COMPLEX COMPOUND, DIOXANE, X RAY STUDY, CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0316 STEP NO--UR/0192/70/011/001/0071/0074

CIRC ACCESSION NO--AP0103971

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103971

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CRYSTAL STRUCTURE OF THE COMPLEX OF GECL SUB2 WITH 1,4,DIOXANE, GECL SUB2 TIMES C SUB4 H SUB8 O SUB2, IS DETD. BY MEANS OF 3 DIMENSIONAL X RAY DATA. THE CRYSTALS BELONG TO THE MONOCLINIC SYSTEM, A 7.59, B 11.72, C 8.85 ANGSTROMS, BETA EQUALS 96.3DEGREES, ZETA EQUALS 4, AND SPACE GROUP IS CC. THE CRYSTAL IS MADE UP OF ENDLESS CHAINS...-GECL SUB2-OC SUB4 H SUB8 O), BETWEEN WHICH ONLY VAN DER WAALS INTERACTION EXISTS. THE GE ATOM FORMS TWO NORMAL ELECTRON BONDS WITH ATOMS OF CL (GE-CL DISTANCES OF 2.25 AND 2.28 ANGSTROMS, CL-GE-CL-ANGLE EQUALS 94.6DEGREES) AND ITS VACANT THIRD P,ORBITAL INTERACTS WITH TWO ATOMS OF O (GE-O DISTANCES OF 2.41 AND 2.48 ANGSTROMS).

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R002200420008-3"

USSR UDC 669.295.5'71'292:620.174

CHERNETSOV, V. I., ROMANOV, S. B., BOKMAN, N. N.

"Resistance to Crack Propagation in Titanium Alloys"

Tr. Sev.-Zap. zaoch. politekhn. in-ta (Works of the Northwestern Correspondence Polytechnic Institute), 1971, No 16, pp 84-87 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 4I750)

Translation: A study was made of the effect of the environment (air and a 3% solution of NaCl), the loading rate (0.005 and 1.2 mm/min), and the grain size and H content (from 0.002 to 0.03%) on the work of crack propagation in two α-alloys of the Ti-Al-V system. Prismatic samples with an acute crack were tested for static bending. The fine-grain alloy resists crack propagation more than the large-grain alloy. With an increase in the loading rate, the crack propagation work drops. A 3% solution of NaCl decreases the crack propagation resistance in comparison with air, especially with large grain structure. In spite of the high total corrosion resistance of Ti α-alloys, they are inclined toward the effect of the corrosive environment under stress, for the protective oxide film is destroyed in the crack formation process. With an H content of 0.01% and more, the work of crack propagation drops sharply, and brittle fracture takes place. 4 illustrations and 2 tables.

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